

542767

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
12 August 2004 (12.08.2004)

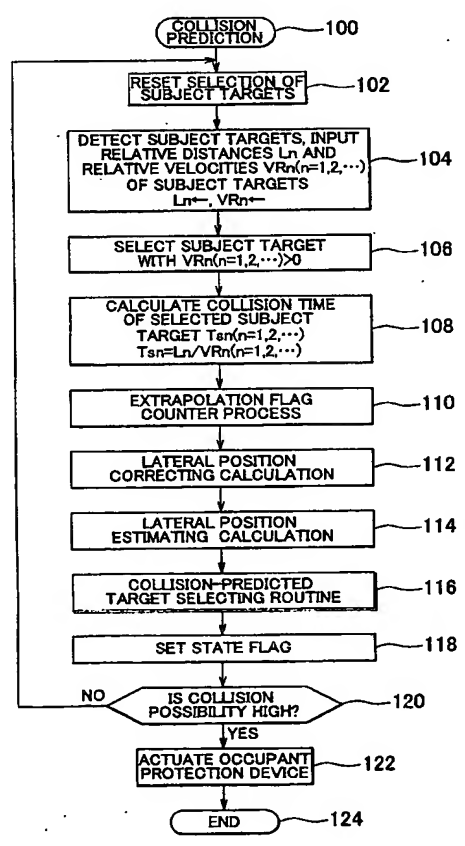
PCT

(10) International Publication Number  
**WO 2004/068165 A1**

- (51) International Patent Classification<sup>7</sup>: **G01S 13/93, B60R 21/01**
- (21) International Application Number: **PCT/IB2004/000192**
- (22) International Filing Date: **28 January 2004 (28.01.2004)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:  
**2003-019108 28 January 2003 (28.01.2003) JP**
- (71) Applicant (for all designated States except US): **TOYOTA JIDOSHA KABUSHIKI KAISHA [JP/JP]; 1, Toyota-cho, Toyota-shi, Aichi-ken, 471-8571 (JP).**
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **MORIIZUMI, Kiyotaka [JP/JP]; c/o Toyota Jidosha Kabushiki Kaisha, 1, Toyota-cho, Toyota-shi, Aichi-ken, 471-8571 (JP).**
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.**
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): **ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,**

[Continued on next page]

(54) Title: **COLLISION PREDICTING APPARATUS AND COLLISION PREDICTING METHOD**



(57) Abstract: A collision predicting apparatus detects subject targets present in the traveling course of the own vehicle by using the relative distance and the relative velocity, etc. The apparatus also calculates the predicted collision time of each subject target on the basis of the relative distance and the relative velocity. The apparatus also detects the relative lateral position of each subject target, and corrects the relative lateral position. The apparatus then executes a collision-predicted target selecting routine, in which the predicted collision time of each subject target that does not meet a predetermined condition is set at a predetermined maximum value. The apparatus selects a subject target that meets the predetermined condition as a collision subject target, and predicts whether the collision subject target will collide with the own vehicle.

WO 2004/068165 A1



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*